

ISSN 0965-1128 (print)  
ISSN 2045-6808 (online)

# The Endocrinologist

THE NEWSLETTER OF THE SOCIETY FOR ENDOCRINOLOGY • ISSUE 105

AUTUMN 2012

**SPECIAL ISSUE**

## Grants and funding



Published by  
**BioScientifica** 





► Now here's a question for you. What's of direct or indirect benefit to all of us, both scientifically and in our personal lives, yet is a topic that most of us are reluctant to discuss? Need a clue? How about if I added that it's when we're asked to talk about it in public that we become a little reticent? Well, Paul Foster is calling for us to stand up for what we believe in. His article 'On animal research' (page 21) argues that, in addition to fulfilling our obligation to report back to the ultimate funders of our work, the scientific community needs to be more open about

the use of animals in research if it's to remain an option in the UK. Paul has canvassed the opinions of Society members on the need for greater transparency and how this could be achieved – one possibility might be participation in public events such as science festivals.

The Society may be able to help you with this approach, as grants to support public engagement are one of the many types of funding on offer. So, as part of this issue's focus on grants and funding, Saffron Whitehead, Chair of the Public Engagement Committee, summarises the application process on page 7, and on pages 6–7 you can read about the diverse and imaginative activities of previous grantholders. On pages 4 and 12, Karen Chapmen and Tony Coll of the Science Committee highlight the awards available to our trainee members (including the new 'Practical Skills Grant'). The benefits of these, and other forms of Society funding, to past recipients are recounted on pages 13–15. A round-up of the existing and new clinical research projects managed by the Society is provided by Debbie Willis on page 8.

Regular readers of my editorial will know that applying for grants has occupied a lot of my time over the last year. I'm still (9 months after submission!) waiting to hear if one of my applications is in the perhaps 4% that make the final cut. However, pondering on how to rejig and improve another, recently declined, submission made me think it was time to call in the experts – our colleagues that sit on the panels and committees that actually make the decisions. So, in this issue, we bring you insider knowledge about how to maximise your chances of success in gaining funding (project or individual) from the awarding bodies that most of us are likely to target (pages 16–19). Julian Davis and Sue Brain provide their top tips for gaining programme and project grant funding from the Research Councils, MRC and BBSRC; David Ray and Neil Hanley give advice on obtaining an independent fellowship from MRC and NIHR; and Matt Hobbs, Head of Research at Diabetes UK, shares his experience from the charity perspective. You'll notice some common themes around importance, focus, remit and clarity. I hope you find their wise words useful.

Other Society members have been enhancing their knowledge in different ways. On page 20, SpR Ploutarchos Tzoulis explains his decision to do an MSc in endocrinology and encourages others to consider following his path. The Oxford Endocrine Club hosted the latest in the series of the Society's Regional Clinical Cases meetings over the Summer, clearly with great success. See page 10 for Abhi Vora's report, future dates and locations, and how to get in touch if you'd like to hold a similar event on your own patch. Meanwhile, one of our Nurse Members, Shashana Shalet, attended the first dedicated session for endocrine nurses at an ICE/ECE meeting (page 11). With such interesting topics as developing a nurse-led service in endocrinology and an international endocrine nurse network, it's likely to be a regular feature.

Right, that's me off to practise what the grant gurus preach: surely perseverance is also part of the winning formula!

MELISSA WESTWOOD

The Society welcomes contributions and article suggestions; contact the Editorial office at [info@endocrinology.org](mailto:info@endocrinology.org). Deadline for news items for the Winter 2012 issue: 12 October 2012. Deadline for news items for the Spring 2013 issue: 21 December 2012.



*Editor:* Dr Melissa Westwood  
*Associate Editor:* Dr Miles Levy  
*Commissioning:* Tracey Curtis  
*Co-ordination:* Andrew Lowe  
*Sub-editing:* Caroline Brewer  
*Design:* Martin Harris

Society for Endocrinology  
 22 Apex Court, Woodlands,  
 Bradley Stoke, Bristol BS32 4JT, UK  
 Fax: 01454-642205  
 Email: [info@endocrinology.org](mailto:info@endocrinology.org)  
 Web: [www.endocrinology.org](http://www.endocrinology.org)

Company Limited by Guarantee  
 Registered in England No. 349408  
 Registered Office as above  
 Registered Charity No. 266813

©2012 Society for Endocrinology

*The views expressed by contributors are not necessarily those of the Society*

**Officers**

Prof AB Grossman (*President*)  
 Prof DW Ray (*General Secretary*)  
 Prof GR Williams (*Treasurer*)  
 Prof C McCabe (*Programme Secretary*)

**Council Members**

Dr SG Ball, Prof K Chapman,  
 Dr H Christian, Prof A Logan,  
 Prof JR Seckl, Prof RM Sharpe,  
 Prof AP Weetman, Prof A White

**Committee Chairs**

*Clinical:* Prof JA Franklyn  
*Finance:* Prof GR Williams  
*Nominations:* Prof JAH Wass  
*Nurse:* Mrs V Kieffer  
*Programme:* Prof C McCabe  
*Public Engagement:* Prof S Whitehead  
*Publications:* Prof DW Ray  
*Science:* Prof K Chapman  
*YE Steering Group:* Dr V Cabrera-Sharp

**Staff**

*Chief Executive:* Leon Heward-Mills  
 Tel: 01454-642216 for the above  
*Head of Publishing:* Kathryn Spiller  
*Society Services Manager:* Rachel Evans  
*Professional Affairs Officers:*  
 Abhi Vora, Debbie Willis  
*Society Services Support Officer:* Julie Cragg  
 Tel: 01454-642200 for the above  
*Client Services Director:* Helen Gregson  
 Tel: 01454-642210 for the above  
*Public & Media Relations Manager:* Jennie Evans  
 Tel: 01454-642230 for the above

**2012 Advertising**

For more information, contact [advertising@endocrinology.org](mailto:advertising@endocrinology.org)

Published by   
**BioScientifica**  
 BioScientifica is a wholly owned subsidiary  
 of the Society for Endocrinology



# Endocrine Connections first issue now online!

► Issue 1 of our new open access journal, *Endocrine Connections*, features research on vitamin D treatment for primary hyperparathyroidism, expression of renin-angiotensin system components and the association of IGF-1 with glycaemic control. Visit [www.EndocrineConnections.com](http://www.EndocrineConnections.com) to view the papers free online.

*Endocrine Connections* publishes interdisciplinary papers and so will be of interest to researchers and clinicians who work in areas outside endocrinology. This extends the reach and impact of work published in the journal, and will stimulate collaboration between disciplines.

This exciting new journal is owned by the Society for Endocrinology and the European Society of Endocrinology, two not-for-profit societies working together to further research, education and clinical practice in endocrinology.

We are offering half-price article publication fees to authors of the first 200 accepted papers! You can submit your research at [www.EndocrineConnections.com](http://www.EndocrineConnections.com).

Our World Hurl *Endocrine Connections* competition ran at the Society BES 2012, ICE/ECE 2012 and ENDO 2012. Congratulations go to Ruth Witherall who won the game with the highest score at the Society BES 2012, and receives a Samsung Galaxy Tab 10.1. Ruth is a junior doctor from the East Midlands and a member of the Society for Endocrinology. About open access, she says 'any development which helps junior doctors get published is an enormous help'. Well done Ruth!



## Even more prizes on offer!

(EVEN MORE REASON TO SUBMIT AN ABSTRACT)

► The numbers of prizes awarded at the Society's Clinical Update and Clinical Cases meetings are set to increase.

The Clinical Endocrinology Trust has generously provided eight prizes for delegates who excel at presenting clinical cases at future Clinical Update meetings. Meanwhile, Clinical Cases meetings will see an increase in prizes from four to six: three for the highest scoring oral communications and three for the best poster presentations.

These increases recognise the tremendous effort that delegates put into presenting their work at these meetings. Please visit the Conferences and Training Events web page ([www.endocrinology.org/meetings](http://www.endocrinology.org/meetings)) for details of forthcoming meetings.

## Practical Skills grant – up to £2000 available

Known previously as the Lab Visit grant, we have revised the grant criteria and widened the scope of this scheme. Trainee and Associate Members may now apply to:

- ▷ visit a lab to learn a technique or to carry out experiments essential to their projects
- ▷ attend a lab-based workshop to gain practical skills

Further details can be found on page 4, or at [www.endocrinology.org/grants/grant\\_practicalskills.html](http://www.endocrinology.org/grants/grant_practicalskills.html)

## NEW PRESIDENT NEEDED

Professor Ashley Grossman will retire from the post of President at the 2014 AGM, having served his term of office. A new President-elect is required from March 2013 to take up office in 2014 for 2 years.

Council has nominated Professor Steve O'Rahilly; if any member wishes to make further nominations, please contact [members@endocrinology.org](mailto:members@endocrinology.org) for a nomination form.

## Congratulations

Professor John Wass has been elected Academic Vice-President of the Royal College of Physicians in London; Dr Alastair McLellan has been awarded a Chair and taken the post of Postgraduate Dean for West of Scotland; and Dr Peter Selby has been awarded a Chair. We congratulate them all.

SOCIETY CALENDAR

5–7 November 2012  
**Clinical Update**  
*Holiday Inn, Stratford-upon-Avon, UK*

5 December 2012  
**Regional Clinical Cases**  
*Double Tree Hotel, Leeds, UK*

26 February 2013  
**National Clinical Cases**  
*The Royal Society of Medicine, London, UK*

18–21 March 2013  
**Society for Endocrinology BES 2013 Meeting**  
*Harrogate International Centre, Harrogate, UK*



## Future Society BES meetings

2013: Harrogate, 18–21 March

2014: Liverpool, 24–27 March

2015: Edinburgh, 2–5 November

The 2015 meeting will be the first of our meetings to be held towards the end of the year, to avoid clashing with the US Endocrine Society's plans to hold their annual meeting in spring instead of summer.

# Here's how to hone your skills

'It ain't what you do... (it's the way that you do it)' from our Science Committee correspondent

► In a world of high speed interconnectivity, open access publishing and Skype videoconferencing, it's never been easier to find out what is happening in laboratories all over the world. Need to know how to set up that assay? Easy, read the supplementary methods online and fire off an email to the guy in Philadelphia to check the serial number in the Sigma catalogue. What can possibly go wrong?

Well, as anyone who has come close to stabbing themselves in frustration with a P20 Gilson, when the result from the plate reader can only be explained by the existence of dark matter in the pipette tip, will tell you: plenty can go wrong.

The inability to replicate and reproduce can be insidious and debilitating: often the best way to find out how to make something work is to go and stand next to someone who can do it and, well, watch them do it.

The Society for Endocrinology has for some time embraced this concept and, through the Science Committee, has administered a 'Lab Visit Grant' as a way to support opportunities for practical learning. However, we feel it is time for a change, both in name and also in remit. To some, the phrase 'lab visit' conjures up images of a disinterested tour of yet another fume hood and glass wash facility, when what we wish to support is a far more dynamic, engaging and interactive process.

Arenas in which practical learning can take place have also expanded, and many savvy academic institutions have

seized the financial opportunity to showcase their technical expertise. Indeed, as regulation around surgical procedures undertaken in animals continues to evolve, it is likely both the need and the demand for such 'hands on' courses will increase.

For all these reasons then, we are delighted to highlight our 'Practical Skills Grant' as a way of supporting Trainee and Associate Members not only to spend time with colleagues in a different lab, to learn a technique or carry out an experiment essential to their project, but also to attend workshops to gain practical skills. You can find out more at [www.endocrinology.org/grants/grant\\_practicalskills.html](http://www.endocrinology.org/grants/grant_practicalskills.html).

This grant is just one of a range that is supported by the Science Committee, who meet regularly to analyse and review how best to support up-and-coming endocrinologists throughout their early career. Full details are at [www.endocrinology.org/grants](http://www.endocrinology.org/grants), and you can read more about funding opportunities, and the experiences of past recipients of Society grants, on pages 12–19 of this issue of *The Endocrinologist*. We take a keen interest in ensuring we can support young scientists in a way that really makes a difference. We can't promise that days spent at someone else's bench will guarantee a Midas touch when you return to your own, but the next time you find that a great idea is bogged down by technical difficulty, maybe it's time to pause and look for a fresh perspective.

TONY COLL

## OBITUARY

### ALISON DOUGLAS

► Alison Douglas came to Edinburgh from Belfast in March 1986 to continue the theme of her doctoral studies on muscle physiology, including uterine muscle. There, John Russell was beginning to explore the neuroendocrine regulation of parturition, through his studies of oxytocin secretion, and he was able to persuade her that it was sometimes worth looking above the neck! At that time, John was working closely with myself and John Bicknell, who were both then employed at the Babraham Institute in Cambridge, and that collaboration needed additional hands and fresh talent.



Alison was the ideal recruit, able to get on effortlessly and cheerfully with diverse collaborators, and enthusiastic to acquire new skills in areas that none of us knew much about (except that it seemed as though we should). Soon she began to be recognised, not only by her close colleagues, but also internationally, as an expert in quantitative approaches to functional neuroanatomy.

At the point of her untimely death this year, Alison was Professor of Reproductive Neuroendocrinology at Edinburgh University, and Chair of the Committee of the British Neuroendocrine Society. Her research in recent years,

notably with Petra Arck in Tübingen and Inga Neumann in Regensburg, remained true to the theme that had driven it from the outset: a concern to help ensure that the beginnings of life should be safe and happy for both mother and child.

She wanted her research to make a difference but, although motivated by the potential translational value of her work, she believed that basic research was the key – that effective understanding needs to be based on solid fundamental investigation. She believed in solid research, not necessarily fashionable research. She viewed the contemporary obsession with journal impact factors with amused contempt, tinged with a resigned acceptance that some aspects of science are run by people who don't have time to read papers.

But she found time to read papers, and at meetings she took time to listen to talks, not merely to see them. She worked at knowing and understanding what others had to say, and she worked in the lab herself, not just through others, until she was too ill to do so. These characteristics, coupled with a generosity of spirit, a genuine fondness for people, and an irresistible smile, made her a cherished collaborator. They also made her a fine teacher, and a wonderful role model for young scientists.

GARETH LENG

# A lifetime commitment



25 years in Endocrinology

**Individualised Treatment – Our focus for the future**

# Engaging the public

► Can you remember when you decided to become a scientist? Chances are it wasn't through reading the latest issue of *Journal of Endocrinology* (much as we love our hallowed publication), but through an activity designed to engage the public with science, whether it be an episode of 'Tomorrow's World' or visiting a science museum.

Rather than just a way of boosting your department's 'impact' rating in the upcoming Research Excellence Framework, public engagement is a fun and highly rewarding way of promoting science in the public arena.

To support your activities in public engagement, we introduced the Society for Endocrinology Public Engagement Grants in August 2011. These offer up to £1000 to eligible members to carry out initiatives which teach the public about their hormones and wider science and medicine in a fun and engaging way. We didn't really know what to expect, but the response was amazing. You can see the results for yourself below.

## A tall story: unravelling the genetics behind Charles Byrne, 'the Irish giant'

This event at the Hunterian Museum in London showcased one of the most fascinating stories in endocrinology in 2011. Professor Márta Korbonits and gigantism patient Brendan Holland gave a lecture to a full house on the landmark study which led up to the paper 'AIP mutation in pituitary adenomas in the 18th century and today' (Chahal *et al.* 2011 *New England Journal of Medicine* 364 43–50). This was followed by a FIPA Patients' meeting, where pituitary patients with AIP mutations shared their experiences and

learned more from the endocrinologists, geneticists and other medical professionals assembled.

learned more from the endocrinologists, geneticists and other medical professionals assembled.

*'...very original and contemporary – I was expecting it to be merely historical'*

EVENT ATTENDEE

## Steroid replacement study day

The Oxford Centre for Diabetes, Endocrinology and Metabolism held their 5th Steroid Replacement Study Day in March 2012. Patients with adrenal insufficiency and their families and friends were invited to attend a patient education day organised by grant recipient Dr Niki Karavitaki. Here, they heard from endocrinologists about steroid deficiency and were given a practical demonstration of the emergency steroid injection by the endocrine nurse team. The funds also supported another event in September.



## Do you know your risk of heart disease?

A public debate on heart disease risk factors was held at Manchester

Town Hall in May, with support from the Society and the British Society for Cardiovascular Research. Short talks on medical and scientific aspects, including one by Professor Anne White (Manchester), took place alongside an ethical talk discussing how far the state should go to intervene. Chair Dr Sarah Chan (Manchester) questioned the audience throughout on individual versus collective responsibility, and electronic voting pads gave an insight into the complexity of public opinion.

*'It was interesting to note that, on the one hand, 80% of the audience felt that the individual is responsible for their own health and choice of lifestyle yet, on the other hand, 90% felt that the NHS or Government should do more to promote healthy eating and exercise among the young'*

DR YVONNE ALEXANDER (MANCHESTER), GRANT RECIPIENT

## It is goitre, not witchcraft

Individuals with goitre are viewed with suspicion in many parts of Nigeria, and men and women with goitres are frequently regarded as victims or practitioners of witchcraft. Dr Olubiyi Adesina (Abeokuta, Nigeria) invited 90 secondary school students from nine different schools to hear a public lecture on goitres and the thyroid gland. The lecture was televised and broadcast on state TV and national radio and covered in national newspapers.

*'It was very clear that the message on goitres has been widely disseminated to the Nigerian populace and a positive change of attitude will be visible over the coming months and years'*

DR OLUBIYI ADESINA (ABEOKUTA, NIGERIA), GRANT RECIPIENT





## How are your hormones?

The Society is no stranger to Cheltenham Science Festival, but this year we were more than pleased to provide support to

Dr Kevin Murphy for an event on hormones organised by the Centre for Integrative Mammalian Physiology and Pharmacology at Imperial College London. 'How are your hormones?' was an interactive stand manned by some very enthusiastic students from Imperial, who led several hundred passers-by through how hormones govern exercise, emotions, appetite and attraction. Accompanying them was science-based artist Lizzie Burns, running a workshop for visitors to create clay 'mini-me' models to label with endocrine glands and take home.

*'Thank you for making a lovely activity. We liked making the mini-me model. "Hormones" was a new topic for us'*

ELLIE, AGED 5

## MedEx

Further engagement at Imperial College London involved a week-long residential course designed to give year 12 pupils from Imperial College's outreach network a hands-on experience of life as a medical student. Funding from the Society to Dr Michelle Sleeth enabled 25 students to undertake practical sessions on exercise, ELISA insulin testing and surgical simulations, as well as team case studies.

*'Attending MedEx this week has definitely enhanced my knowledge into studying medicine and what it entails'*

MELINA, ALPERTON COMMUNITY SCHOOL STUDENT

*'It was a brilliantly run and organised course and I am now very excited and enthusiastic about medicine and will be most certainly applying!'*

LEWIS, TRINITY CATHOLIC HIGH SCHOOL STUDENT

## Growth hormone: more than just a tall story?

Endocrinology was well represented at the second Barts and the London Science Festival, as Dr Maralyn Druce (London) and medical students from Barts and the London hosted an interactive stand on growth hormone. Festival-goers young and old were taken through displays on various aspects of growth hormone and invited to measure their height, ring size, collar size and skin thickness to illustrate the medical conditions associated with growth hormone.

*'As medical students, we seldom get the opportunity to present endocrine topics to the general public, and so this has been an invaluable experience. Not only did it offer the opportunity for us to learn how to explain complex endocrine disorders to the general public, but it also enriched our knowledge of the topics and further enhanced our desires to gain a deeper understanding of endocrinology'*

VIVIENNE KIT AND DWIJ MEHTA,  
3RD YEAR MEDICAL STUDENTS,  
BARTS AND THE LONDON SCHOOL  
OF MEDICINE AND DENTISTRY



## The egg and sperm race

'The egg and sperm race' is an interactive initiative by Society member Dr Vicky Young and colleagues at the MRC Centre for Reproductive Health (Edinburgh). Thanks to funds from the Society they travelled to the Green Man Festival in the Brecon Beacons to engage festival-goers with reproductive biology. Features at their stand included a sperm train set navigating the female reproductive tract and showing barriers to pregnancy such as obesity, microscope slides showing healthy and damaged reproductive tissues, egg cell piñatas and an interactive diagram of the menstrual cycle. For more information, visit <http://eggandspermrace.com>

*Grants are open year-round to eligible members of the Society for Endocrinology. To find out more about the grants and how to apply for up to £1000 to support your activity, please visit the Society for Endocrinology website ([www.endocrinology.org/grants](http://www.endocrinology.org/grants)).*

## From the Public Engagement Chair

**Since their instigation, we have been surprised and delighted by the number of applications for Society Public Engagement Grants that we have received, and the diversity of public events we have supported.**

I became one of the initial panel of three who scrutinised and vetted these applications. Not wanting to reject some of the excellent proposals, the Public Engagement Committee went back to Council and requested further funds for this grant scheme so that more proposals could be supported. Council agreed.

Applying for these funds is not an onerous task and simply requires a 500-word proposal and justification for event expenses. Each member of the panel individually assesses the application and allocates marks according to specific criteria set out in the marking scheme. If the application receives enough points from all three members of the team, the grant is awarded.

You can see here what a wide range of activities we have supported, so the success of receiving funds is not dictated by the sort of event that is to be held. We look for evidence that an event will attract a reasonable number of members of the general public, whether they be from the adult or younger community, that the event has been carefully planned and has a clear objective, that any speakers who may be involved have agreed and that a specific time and venue have been identified.

One of the Public Engagement Committee's aims next year is to increase the awareness of the Society for Endocrinology and endocrinology in younger education, and so I am delighted that whatever initiatives we decide upon can be backed up by the Society's support in promoting endocrinology to the public.

SAFFRON WHITEHEAD  
CHAIR, PUBLIC ENGAGEMENT COMMITTEE

## Society research projects

► One of the Society for Endocrinology's objectives is 'to advance scientific and clinical education and research in endocrinology for the public benefit'. To this end, the Society manages a number of multi-centre research and audit projects, two long-standing projects (the Congenital Adrenal Hyperplasia Adult Study Executive (CaHASE) and the UK Acromegaly Register) and three new projects (Apoplexy Audit, Post-Radiation Graves' Management (PRAGMA) and Transitional Care).

### CaHASE

*Chaired by Richard Ross, supported by the Clinical Endocrinology Trust (CET)*

Congenital adrenal hyperplasia (CAH) is one of the most common inherited diseases, affecting 1 in 14 200 live births. In its severest form it is life-threatening and requires life-long treatment. With advancement in hormone treatment over the past 60 years, individuals now survive into adulthood. Most of the published literature on CAH is centred on childhood. CaHASE was established to address this issue and look specifically at clinical outcomes, quality of life and sexual function in adults with CAH.

In the current challenging environment of regulation and funding, CaHASE represents a highly successful model of collaboration between the Society for Endocrinology, its members and the CET for undertaking patient-centred prospective research. The co-operative, independent nature of this study with commitment from members has led to CaHASE being acknowledged as one of the eleven most significant papers published in the field of adrenal endocrinology in 2011 (Carey 2011 Adrenal disease update 2011 *Journal of Clinical Endocrinology and Metabolism* 96 3583–3591).

The significance of CaHASE is also highlighted by the number of associated publications, invited talks and presentations at conferences and patient support events, and the reported improvement in patient services (see [www.endocrinology.org/about/projects/cah.html](http://www.endocrinology.org/about/projects/cah.html)). The project has been invited to join the Euro-DSD registry and, as a direct result of CaHASE, the Society is preparing clinical guidance on the management of the adult patient with CAH.

### Apoplexy Audit

*Chaired by Simon Aylwin, supported by the CET*

Pituitary apoplexy is a medical emergency characterised by the sudden onset of headache, vomiting, visual impairment and decreased consciousness caused by haemorrhage and/or infarction of the pituitary gland. The Apoplexy Audit project is an audit of practice and outcome. It will assess adherence to the recently published Society for Endocrinology UK Guidelines on Apoplexy. Further information on the management of individuals presenting with apoplexy will be obtained, to determine how closely national practice matches recommendations in the guidelines.

### UK Acromegaly Register

*Chaired by Trevor Howlett, Chair-elect John Ayuk, supported by Ipsen Ltd*

Acromegaly is the result of a benign GH-secreting pituitary tumour. Treatment options include pituitary surgery and/or radiotherapy and/or medical treatment. The UK Acromegaly Register collects prospective and retrospective data on patients with acromegaly and gigantism to assess outcomes of these treatment options.

Through a study with the NHS Information Centre, mortality, morbidity and incidence of secondary tumours in this patient population are also being assessed. The project has recently started a study with Immunodiagnostic Systems to measure GH and IGF-I for all patients on the register centrally in a single laboratory.

The project has already published data on radiotherapy and surgical outcomes, and a manuscript on medical treatment options is in preparation. For a full list of publications please see [www.endocrinology.org/about/projects/acromegaly.htm](http://www.endocrinology.org/about/projects/acromegaly.htm). The Steering Committee is grateful to Ipsen for continuing to support the register for another year.

### PRAGMA

*Chaired by Petros Perros, supported by the CET*

This project will focus on patients with Graves' disease as the commonest cause of thyrotoxicosis and the commonest indication for radio-iodine therapy. The project aims to study patients with Graves' disease who are treated with radio-iodine, and to compare the incidence of dysthyroidism post-radioiodine between two different management strategies employed by clinicians in the UK. Use of anti-thyroid drugs (with and without levothyroxine) will be compared with watchful monitoring and introduction of levothyroxine when needed.

### Transitional Care

*Chaired by Helena Gleeson, supported by the CET*

Transitional care is complex and is an important part of life-long endocrine care. To be effective, it needs to address the ever-changing biological, psychological, sexual, social and educational/vocational needs of adolescence and emerging adulthood. The age range that this period of life covers means that the responsibility for transitional care includes both paediatric and adult endocrine services. The Royal College of Physicians is the latest college to begin to focus on this area and, through the representatives of the Young Adult and Adolescent Steering Group, is encouraging specialties to review the current status of both education/training and transitional care.

The project will address the following questions:

- what is the current state of transitional care in endocrinology nationally?
- what are the attitudes and training needs of healthcare professionals working within transitional care?
- what are the user perspectives on transitional care in endocrinology and what are their transitional care needs?



*A long-acting somatostatin analogue therapy, uniquely formulated and providing effective treatment of acromegaly and the symptoms of neuroendocrine tumours*

# START RIGHT & STAY RIGHT

*Somatuline Autogel is a unique nanotube formulation that allows therapy to **start right** with a rapid therapeutic response...<sup>1,2</sup>*

*...and **stay right** through sustained, long-term control;<sup>2-4</sup> it is conveniently administered from ready-to-use syringes with an automatic safety system*

 **Somatuline<sup>®</sup> autogel<sup>®</sup>**  
lanreotide

**Rapid response, sustained control**

#### PRESCRIBING INFORMATION

##### SOMATULINE<sup>®</sup> Autogel<sup>®</sup>

**Presentation:** Extended release preparation. Pre-filled syringe containing a solution of lanreotide (as acetate) 60, 90 or 120mg per syringe. **Indications: (1)** for the treatment of acromegaly when the circulating levels of growth hormone and/or IGF-1 remain abnormal after surgery and/or radiotherapy or in patients who otherwise require medical treatment. **(2)** for the treatment of symptoms associated with neuroendocrine (particularly carcinoid) tumours. **Dosage: Acromegaly:** One deep subcutaneous injection of 60, 90 or 120mg every 28 days. In patients receiving a somatostatin analogue for the first time, the recommended starting dose is 60mg, which may subsequently be titrated to 90mg or 120mg according to clinical and biochemical response. In patients who are well controlled on Somatuline Autogel in terms of clinical symptoms and biochemical parameters (GH concentrations below 2.5ng/mL and IGF-1 levels in the normal range), Somatuline Autogel 120mg may be administered at intervals of 42-56 days. **Neuroendocrine Tumours:** One deep subcutaneous injection of 60, 90 or 120mg every 28 days. The dose selected is dependent on the individual patient's response to lanreotide and should be adjusted according to symptomatic relief. It is not recommended for use in children and adolescents. No dose modification is required in patients with renal or hepatic impairment, or in the elderly. **Method of administration:** Somatuline Autogel should be injected via the deep subcutaneous route into the superior, external quadrant of the buttock. The injection may be given by a healthcare professional or, for patients considered by their healthcare professional to be stabilised on their treatment with Somatuline Autogel, by an appropriately trained friend or relative of the patient. Alternatively, such patients may self-administer the product after appropriate training. In this case, the injection should be given in the upper, outer thigh. **Contra-indications:** Known hypersensitivity to lanreotide or related peptides or any of the excipients. **Precautions and warnings:** Somatuline Autogel may reduce gallbladder motility and lead to gallstone formation. Patients may require periodic monitoring. Patients treated with Somatuline Autogel may experience hypoglycaemia or hyperglycaemia. Blood glucose levels should be monitored at the start of

treatment or when the dose is altered, and any anti-diabetic requirements should be adjusted accordingly. Slight decreases in thyroid function have been observed in patients with acromegaly. Thyroid function tests are recommended where clinically indicated. Somatuline Autogel may lead to a decrease of heart rate in patients without underlying cardiac problems, and sinus bradycardia in those with underlying cardiac disorders. Care should be taken when initiating treatment in patients with bradycardia. In patients with carcinoid tumours, the presence of an obstructive intestinal tumour should be excluded before prescribing Somatuline Autogel. **Interactions:** Concomitant administration of ciclosporin may decrease the relative bioavailability of ciclosporin. Concomitant administration of bromocriptine may increase the bioavailability of bromocriptine. **Use in pregnant or lactating women:** Somatuline Autogel should be administered to pregnant women only if clearly needed and caution exercised when administered during lactation. **Side-effects:** **Very common:** diarrhoea, loose stools, abdominal pain, cholelithiasis. **Common:** ALAT increased, ASAT abnormal, ALAT abnormal, blood bilirubin increased, blood glucose increased, HbA1c increased, weight decreased, nausea, vomiting, constipation, flatulence, abdominal distension, abdominal discomfort, dyspepsia, sinus bradycardia, dizziness, headache, alopecia, hypotrichosis, hypoglycaemia, fatigue, injection site reactions (pain, mass, induration, nodule, pruritis), biliary dilatation. Occasional reports of pancreatitis have been identified during post-marketing safety surveillance. Prescribers should consult the Summary of Product Characteristics in relation to other side effects. **Pharmaceutical precautions:** Store in a refrigerator at between 2° and 8°C. **Legal category:** POM. **Basic NHS cost:** 60mg £551; 90mg £736; 120mg £937. **Package quantity:** Each box contains one syringe of Somatuline Autogel. **Marketing authorisation numbers:** PL 34926/0005 - 0007. **Marketing authorisation holder:** IPSEN Ltd, Slough. Further information can be obtained from IPSEN Ltd, 190 Bath Road, Slough, Berkshire, SL1 3XE. Tel: (01753) 627777. Somatuline<sup>®</sup> and Autogel<sup>®</sup> are registered trademarks. **Date of preparation of PI:** October 2011. **UK/SOM08437c ND & COO**

**Adverse events should be reported. Reporting forms and information can be found at [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard)**  
**Adverse events should also be reported to the Ipsen Medical Information department on 01753 627777 or [medical.information.uk@ipсен.com](mailto:medical.information.uk@ipсен.com)**

#### References:

1. Bronstein M, Musolino N, Jallad R et al. Pharmacokinetic profile of lanreotide Autogel<sup>®</sup> in patients with acromegaly after four deep subcutaneous injections of 60, 90 or 120 mg every 28 days. *Clin Endocrinol (Oxf)* 2005; 63(5):514-519.
2. Ruzsniewski P, Ish-Shalom S, Wymenga M et al. Rapid and Sustained Relief from the Symptoms of Carcinoid Syndrome: Results from an Open 6-month Study of the 28-Day Prolonged-Release Formulation of Lanreotide. *Neuroendocrinology* 2004; 80:244-251.
3. Khan MS et al. Long-term results of treatment of malignant carcinoid syndrome with prolonged release Lanreotide (Somatuline Autogel). *Aliment Pharmacol Ther* 2011; 34(2):235-242.
4. Caron PH, Cogne M, Raingeard I et al. Effectiveness and tolerability of three-year lanreotide Autogel<sup>®</sup> treatment in patients with acromegaly. *Clin Endocrinol* 2006; 64:209-214.

**For more information on Somatuline Autogel, please contact:**  
Ipsen UK Medical Information Department  
190 Bath Road, Slough, Berkshire SL1 3XE.  
Tel: 01753 627777.  
Email: [medical.information.uk@ipсен.com](mailto:medical.information.uk@ipсен.com)  
Website: [www.ipсен.co.uk/somatuline](http://www.ipсен.co.uk/somatuline)

UK/SOM08530 Date of preparation: August 2012

# Crowds flock to Oxford

► The Society's Regional Clinical Cases meeting in Oxford on 10 July attracted 57 delegates. This was thanks to the draw of the eminent clinical academic endocrinologists that Dr Niki Karavitaki (Programme Co-ordinator, Oxford) had invited to talk at the meeting: Professors Faisal Ahmed (Glasgow), John Connell (Aberdeen), Richard Eastell (Sheffield) and Ashley Grossman (Oxford).

The Oxford Endocrine Club, with whom the meeting was held, has an effective communications network that ensured that interested individuals were appropriately encouraged to attend, and Niki's more personal network meant that four trainees travelled from Greece and one from Malta to take part in the meeting!

Dr Fiona Ryan (paediatric endocrinologist in Oxford) and Professor John Wass (Oxford) were also on hand to chair sessions and facilitate lively discussions.

The Oxford Endocrine Club, as truly magnanimous hosts, decided that only those who had travelled from outside the region should be considered for the two oral presentation prizes. The marking panel was most impressed by the standard of the oral and poster presentations and so especially hearty congratulations are due to the winner of the oral presentation prize, Dr A Pavlaki (Athens, Greece), the runner up, Dr K Nisal (Leicester), and to the two poster presentation prize winners, Dr G Thanabalasingham (Oxford) and Dr B Whitelaw (London).

Results from the evaluation forms that were completed by 70% of the attendees demonstrate the success of the meeting, in that 98% rated the meeting overall as either 'excellent' (56%) or 'good' (42%). When asked what was best about the meeting, delegates said:

*'The variety of topics, the 'state-of-the-art' information presented in the four lectures, the unhurried discussions after the presentations, and the printed booklet, which contained abstracts of all the presented cases'*

*'Excellent lectures delivered by national experts. Not too long and very clear overview of mainstream endocrinology topics such as osteoporosis, neuroendocrine tumours, hyperaldosteronism'*

*'Exciting cases covering all aspects of endocrinology; fantastic lectures and excellent organisation'*

Niki commented, 'Our aim was to organise a successful Society for Endocrinology Regional Clinical Cases meeting, in keeping with previous events, and we are pleased to see



RCC Oxford 2012 prize winners, (l-r) Ben Whitelaw, Kaustubh Nisal, Niki Karavitaki (chair), Grigoria Betsi and Gaya Thanabalasingham.

the positive feedback that our meeting generated. The eminence of the lecturers, the quality of the case presentations, the interactive discussions and the (not only regional) networking opportunities were some of the important aspects of this event. And, of course, none of these could have happened without the valuable guidance and support of the Society, for which the Oxford Endocrine Club is most grateful.'

Ten of the delegates were awarded free registration – remember that medical students and pre-ST3 trainees can apply to attend Clinical Cases meetings free of charge!

ABHI VORA

Contact Abhi Vora ([abhi.vora@endocrinology.org](mailto:abhi.vora@endocrinology.org)) if your local endocrine group would like to host a Clinical Cases meeting in association with the Society.

## Future Clinical Cases meeting will be held as follows:

**5 December 2012** in Leeds, in association with Yorkshire Endocrinology

**26 February 2013** in London, in association with the Royal Society of Medicine

**May 2013** in Cardiff, in association with the Welsh Endocrine and Diabetes Society

**December 2013** in Belfast, in association with the Irish Endocrine Society

See [www.endocrinology.org/meetings/clinicalcases](http://www.endocrinology.org/meetings/clinicalcases) for further details of these meetings.

► **I hope you all had a good summer and had some time off to enjoy the Jubilee and the Olympics.**

May 2012 saw the ICE/ECE meeting in the beautiful city of Florence. I hope that those of you lucky enough to go had a chance to do a bit of sight-seeing as well as attending the conference! We are grateful to Shashana for her report on the nurses' programme at this meeting, and glad to see that nurses are now being included formally. The programme sounds very interesting, and gave all the nurses a chance to share ideas. Like Shashana, I have often thought it would be wonderful to forge links with other nurses globally – especially with our European colleagues. It's great to see that this process has begun. If you have any suggestions for how further links could be made, please get in touch via [members@endocrinology.org](mailto:members@endocrinology.org) or one of the Nurse Committee.

We continue to make progress with development of the core competency document, which we hope to finalise in October for publication early next year. The document will initially be published electronically on the Society website, with a print copy hopefully following soon after. You will of course be informed when it becomes available.

Finally, I would like to thank Sondra Gorick who is retiring from the Committee at the end of the year, having served her 4-year term of office. Sondra has been a very committed and proactive Committee member. I look forward to working with the new Committee members who will start in January.

*NIKKI KIEFFER, CHAIR, NURSE COMMITTEE*

## Nurses make their mark at ICE/ECE 2012

► **ICE/ECE 2012 in Florence, Italy, included a dedicated nurses' programme for the first time, made up of three sessions covering 'Puberty induction and sex steroid replacement in young adults', 'Cushing's syndrome and prolactinoma – diagnosis and management' and 'Developing endocrine nursing across Europe and internationally'.**

The final session, at which I spoke, started with a great talk by Cecelia Follin (Lund, Sweden) on 'Developing a nurse-led service in endocrinology'. As an endocrine nurse with a busy job plan that contains a clinic everyday, it is always nice to know others are as busy as you! Cecelia has clinics for diabetes, GH deficiency, osteoporosis, thyroid dysfunction and child cancer survivors. She described the Swedish perspective on both adult and paediatric GH replacement (GHR). It was very interesting to hear that they continue with GHR during pregnancy until the 2nd trimester, whereas, in my service, we always stop GHR as soon as pregnancy is confirmed. The take-home message concerned careful planning for development of nurse-led services that takes into account: (a) the evidence for the need for nurse-led clinics, (b) the specific aims of the proposed clinic, (c) development of dedicated specialist education and training that meet the expected high standards and (d) evaluation of the effectiveness of the service and the ability to make adjustments where needed.

My presentation looked at 'The role of nurse prescribing in the care of endocrine patients'. I have always thought that the nurses' role in caring for patients with an endocrine condition has evolved over the years and that the ability to prescribe an individual's medications as part of the consultation process is a natural progression. This extended role has clearly documented benefits for both

the patient and the nurse, and I would encourage as many endocrine nurses as possible to undertake training for this qualification.

The final discussion was entitled 'Developing an international endocrine nurse network' and looked at how we could achieve this. Differences across the globe were discussed, including progress made in Scandinavia and the USA. There is a genuine need for a central website that contains resources and updates for our specific nursing community. Suggestions included using existing websites such as LinkedIn, the US Endocrine Society or the NET European Nurse Forum. All ideas were collected and hopefully, through continued discussion at international meetings, this great idea will become a reality.

Thirteen posters were displayed for review at the beginning of the evening, in a session kindly sponsored by Novartis Pharmaceuticals. Erin Booth was the award winner, for her abstract 'A survey of knowledge related to cystic fibrosis diabetes'. Many of us stayed to speak to nurses from around the globe, making new friends and enjoying a great opportunity for international networking. Overall this was a fabulous session and a very worthy topic which I enjoyed greatly.

*SHASHANA SHALET*

### Certificate of Adult Endocrine Nursing

We congratulate Nicola Ellis from Bradford Royal Infirmary, who has obtained her Certificate of Adult Endocrine Nursing.

# Society grants and awards 2012

Welcome to this special section on the Society's grant and award activities. The Society for Endocrinology offers a wide range of grants, prizes and awards, a large number of which are intended to attract good scientists, doctors and nurses into endocrinology and to support them through their early career. You can find details of all the grants available at [www.endocrinology.org/grants](http://www.endocrinology.org/grants).

Here we give you a flavour of the awards available and the breadth of activities that the Society has supported. Thank you also for all your feedback in the past year; it really helps us match members' needs.

Supporting the career development of its trainee members is a high priority for the Society for Endocrinology. Underpinning this goal are the Society's grant schemes and its annual Career Development Workshop. A new training scheme, the Fellowship Training Workshop, is under joint development by the Young Endocrinologists' Steering Group and the Science Committee, and will be launched next year. All are aimed at supporting our trainee members through that increasingly difficult transition from the early post-doctoral stage to independent investigator.

## What is available, and how can you benefit?

Early Career Grants ([www.endocrinology.org/grants/grant\\_earlycareer.html](http://www.endocrinology.org/grants/grant_earlycareer.html)) and Practical Skills Grants (see Tony Coll's article on page 4) are both ideal for trainee members (up to 10 years post-PhD) to initiate or build up their independent research, whilst at the same time bolstering their CVs by demonstrating initiative and a track record in attracting competitive funding.

The Early Career Grants offer up to £10 000 to members who are less than 10 years post-PhD (though exceptions can be made to allow for career breaks). They are very flexible and can be used in support of salaries (your own or, for example, that of a technician), consumables, services and equipment. Early Career Grants are ideal to pump-prime a project to obtain preliminary data in support of a more substantial grant application, to finance completion of a promising piece of work, or to purchase a piece of equipment. There are also plenty of other imaginative ways they can be used! There are two deadlines a year for applications and a decision is usually made within 2–3 months.

There are currently no deadlines for the Practical Skills Grants, which provide up to £2000 to cover travel and other costs associated with a visit to acquire new lab skills or establish a key collaboration.

## Securing the funds

Applications for Early Career Grants are assessed by the Science Committee. In compiling your application, it is important to look at the marking guidelines ([www.endocrinology.org/grants/grant\\_earlycareer/EarlyCareerMarkingGuidelines.pdf](http://www.endocrinology.org/grants/grant_earlycareer/EarlyCareerMarkingGuidelines.pdf)) which tell you what we are looking for in a successful application. Most important is the quality of the science, but we are also emphatic that the grant should provide substantial benefit to the applicant in terms of career development. If you are asking for funding to enable you to complete work to publication, what difference will that make to your application for a fellowship/tenure track position? How will it move your career forward? What will that new piece

of equipment enable you to do that you couldn't do before, and how will that make a difference to establishing your lab or your career?

If this is your first grant application (and even if it is not), you should seek opinion and advice on your application from an experienced mentor (and read pages 16–19 of this issue of *The Endocrinologist*!).

## Supporting workshops

You will already have learnt a lot about the process and how to go about it if you have attended one of the Society's annual Career Development Workshops (formerly called the Autumn Endocrine Retreat). This workshop (7) brings together 20 trainee members, all either nearing the end of their PhD or in their early post-doc years, with a faculty which is mainly, but not exclusively, drawn from the membership of the Science Committee. It includes established endocrine researchers, group leaders and fellowship holders or new appointees. It provides a hard-working but fun and informal environment in which to learn about the key steps towards establishing your own research group, including CV building and grant application skills.

From next year, it will run in parallel with a Fellowship Training Workshop, a new initiative from the Young Endocrinologists' Steering Group, developed jointly with the Science Committee, to help get you on the next stage of the career track, giving practical advice on how to go about obtaining a fellowship. Running the two workshops in parallel will also provide valuable networking and peer-mentoring opportunities between trainee members at those key transition stages, from PhD to post-doc and from post-doc to independent researcher.

## Building on past success

So far, the Society's initiatives have supported a considerable number of trainee members. For example, between 2009 (when the former 'Small Grants' scheme was restricted to trainees and renamed the 'Early Career Grants') and 2011, of 177 applications, 57 have been funded, at a total cost of over £500 000. You can read about the experiences of some recent recipients on the following pages.

If you have benefited, and gone on to obtain a fellowship or secure a tenured position partly as a result, then please get in touch. We are keen to evaluate the effect of our grants and workshops on the careers of our members. We would also like to build a database of members who will be able to help steer younger colleagues through this critical stage in their careers. If this is something to which you feel able to contribute, please let us know.

KAREN CHAPMAN. SCIENCE COMMITTEE CHAIR

## GRANT REPORTS

### On minefields, Wally and pulsatile hormone secretion

*Jyothis George, University of Edinburgh  
LAB VISIT GRANT 2011*

What do an aerial photograph of landmine-laden enemy territory and the gentle rhythmicity of pulsatile hormone release into the blood have in common? Nothing at all, you might say. However, for a mathematician, the challenges are not dissimilar. One's never sure how many mines there are in a battlefield, where they are located or what they look like – exactly the same could be said of hormonal pulses. As blood samples are only obtained at predetermined intervals, identifying pulses is that bit harder! Worse still, like ink drops in a bucketful of water, hormones secreted into the bloodstream get rapidly diluted, making pulse detection harder still.

There are endocrinologists who have dedicated a lifetime to improving computerised algorithms to quantify and characterise hormonal pulses – Professor JD Veldhuis at the Mayo Clinic is one of them. Thanks to the Society for Endocrinology's laboratory visit grant, I was able to gain insights into his algorithm. We have since worked together on my clinical studies employing kisspeptin-10 to accelerate LH pulse frequency. I have never been good at 'Where's Wally?' and am delighted to have colleagues with clever software that detects patterns using complex real-world data.

### Enhancing international collaboration

*Cristina Capatina (National Institute of Endocrinology,  
Bucharest, Romania)  
CLINICAL DEPARTMENT VISIT GRANT 2011/2012*

My visit to the Oxford Centre for Diabetes, Endocrinology and Metabolism, a world-recognised tertiary referral centre for the assessment and management of endocrine patients, gave me the chance to liaise with world leaders in neuroendocrinology, to increase my research and clinical expertise, and to establish protocols for collaborative studies in the field of pituitary disease.

The Division of Endocrinology at Churchill Hospital has an excellent teaching programme. Participating in the regular meetings that bring together specialists in pituitary radiology, surgery and radiotherapy was extremely worthwhile, and a rare experience in my own department in Bucharest.

My professional aim is to combine clinical research and education with a clinical career. During my 3-month visit I conducted research in two separate areas: the quality of life of patients with non-functioning pituitary adenomas, treated and followed-up in this tertiary centre, and the medical treatment of non-functioning pituitary adenomas. We intend to establish a protocol for collaborative studies in the field of pituitary pathology and discussed potential research opportunities.

This was an outstanding professional opportunity that greatly enriched my clinical and research abilities. As a result, I am much more confident in the diagnosis and management of pituitary diseases. I am extremely grateful to the Society for Endocrinology for their very helpful financial support.

### MCM4 mutation associated with adrenal insufficiency

*Claire Hughes, Queen Mary's University Hospital, London  
EARLY CAREER GRANT 2009*

A unique variant of familial glucocorticoid deficiency exists in a genetically isolated population with high levels of consanguinity. Affected children develop hypocortisolaemia and raised ACTH, but retain normal renin and aldosterone levels. Children also have short stature, evidence of increased chromosomal breakage and natural killer (NK) cell deficiency. All known causes of adrenal insufficiency were excluded. Inheritance patterns were suggestive of autosomal recessive mechanisms, so we tested the hypothesis that a single novel genetic disorder might underlie all major features including the adrenal failure. We sought areas of homozygosity common to affected patients and subsequently interrogated these areas using massively parallel sequencing.

Targeted exome sequencing identified one common variant (c.71-1insG) in mini chromosome maintenance-deficient 4 homologue (MCM4) that leads to aberrant splicing of exon 2 and is predicted to result in a severely truncated protein (p.Pro24ArgfsX4). Western blotting in patients revealed the absence of the major 96kDa isoform, but a minor 80kDa isoform was retained.

MCM knockout in mice is lethal. Histological examination of the adrenals of an MCM4 depletion mouse model revealed an abnormal adrenal morphology. Small, spindle-shaped cells were present throughout the adrenal cortex. These cells did not express either CYP11A1 or CYP11B1 and there was a significant reduction in the number of steroidogenic cells in the zona fasciculata. Further staining showed these cells expressed GATA4, a transcription factor expressed in fetal but not in adult adrenals, and capsular markers, indicating that they may be non-steroidogenic capsular cells infiltrating the cortex.

MCM4 is one part of a MCM2-7 complex that has recently been confirmed as the replicative helicase and is essential for normal DNA replication and genome stability in all eukaryotes. In summary, we have identified the first human mutation in MCM4 and have shown it is associated with adrenal insufficiency, short stature and NK cell deficiency.

*'Thanks very much, indeed it went better than we could have hoped for. We knew we would get results from experience with the system, but they are much more positive than expected, so many thanks again for helping the student and the rest of us to pursue our ideas. Getting funds to do these sort of projects is very difficult in post-1992 universities.'*

COMMENT FROM SUMMER STUDENTSHIP SUPERVISOR

## Springboard to new skills and further funding

Channa Jayasena, Imperial College London  
EARLY CAREER GRANT 2010

The Early Career Grant has enabled me to study the effects of a recently identified hormone called kisspeptin-54 on the pattern of pituitary sex hormone secretion (LH pulsatility) in healthy female volunteers. My work suggests that a single injection of kisspeptin-54 increases the pulsatile secretion of LH in healthy women. I have used these data to successfully apply for an Academy of Medical Sciences/Wellcome Starter Grant for Clinical Lecturers, and am currently performing further studies to investigate the effects of kisspeptin-54 on LH pulsatility. Support from the Society for Endocrinology Early Career Grant has also enabled me to gain some initial experience using deconvolution methodology. This grant has therefore provided a springboard for me to gain new analytical skills which will prove invaluable in helping me develop as a reproductive endocrinologist. I am extremely grateful to the Society for its generous support!

## GnRH pulse frequencies and FSH $\beta$ expression

Ian Thompson, Brigham and Women's Hospital/  
Harvard Medical School, Boston, MA, USA  
EARLY CAREER GRANT 2010

The hypothalamic decapeptide GnRH is released from the hypothalamus and binds to specific receptors in the anterior pituitary gland to stimulate gonadotropin subunit gene expression and LH and FSH secretion. The frequency and amplitude of GnRH pulses vary physiologically across development and through the phases of the menstrual or estrous cycle. Interestingly, varying GnRH pulse patterns differentially regulate LH and FSH secretion. Higher frequencies of GnRH pulses (e.g. one pulse every 30 mins in the rodent) increases the secretion of LH, whereas lower frequencies (e.g. one pulse every 2 h) result in a decline in LH secretion but a rise in FSH secretion.

*'I am in receipt of the email confirming the award of funding for the summer studentship and would like to thank you for your support. It such an amazing opportunity and I am very grateful for your consideration. Again, thank you so much for the grant, I can't tell you how much it means to me and I can't wait to get all that I can out of the summer.'*

COMMENT FROM SUMMER STUDENTSHIP STUDENT

Recent data from our lab suggest a role for two transcription factors, cAMP response element binding protein (CREB) and inducible cAMP early repressor (ICER), in regulating FSH $\beta$  subunit transcription. GnRH stimulates 133Ser CREB phosphorylation (pCREB), with greater levels of phosphorylation in response to low rather than high GnRH pulse frequencies, using the mouse L $\beta$ T2 cell line as a model.

Our recent studies suggest that the PKA pathway is involved in the frequency-dependent modulation of pCREB and hence FSH $\beta$  transcription by pulsatile GnRH. Blockade of this pathway with specific pharmacologic inhibitors (H89) or a dominant negative PKA expression vector significantly reduces GnRH-stimulated pCREB both in static culture and in perfusion paradigms. In parallel, FSH $\beta$  mRNA levels and FSH $\beta$  transcription are also reduced at both high and low GnRH pulse frequencies in L $\beta$ T2 cells transfected with dominant negative PKA constructs compared with empty vector controls. In contrast, induction of the CREB antagonist ICER occurs to a greater extent after high rather than low GnRH pulse frequencies. ICER induction by GnRH was blocked by MEK1/II inhibitors (U0126 and PD325901). These data suggest that the signaling pathways by which GnRH stimulates CREB phosphorylation and ICER expression are distinct, and may represent a mechanism by which varying GnRH pulse frequencies modulate differential FSH $\beta$  expression in the gonadotrope.

## 1st International Symposium on Advances in Human Metabolism Research

Thomas Barber, University of Warwick  
SPONSORED POSTER SESSION GRANT 2011

Warwick Medical School's 1st International Symposium on Advances in Human Metabolism Research took place on 11 November 2011. This marked the official opening of the Human Metabolism Research Unit (HMRU), a new facility based at the University Hospitals Coventry and Warwickshire. The HMRU has two whole-body calorimeters that utilise the world's most advanced calorimetry technology, measuring human metabolic rate very accurately and in real time. The HMRU also houses a BodPod machine, to accurately measure body composition.

The symposium was a huge success and was attended by over 100 delegates from across the country. There was an

## JOE/JME Prize 2013!

The JOE/JME prize is designed to recognise an outstanding young researcher who has made a significant contribution to research in basic endocrinology. The 2013 prize is to be awarded by the *Journal of Molecular Endocrinology*.

The prize consists of a certificate and €2000.

**Nomination deadline: 31 December 2012**

For information on eligibility and evaluation please visit [www.endocrinology.org/grants/prize\\_joejmeprize.html](http://www.endocrinology.org/grants/prize_joejmeprize.html)



impressive array of world-class speakers from as far afield as Singapore and Boston, who delivered talks covering the whole spectrum of human metabolism including exercise, the gut-hypothalamic axis, nutrient metabolism, food-based approaches to obesity, and sex differences in adipose tissue biology. The Society for Endocrinology poster session included over 30 poster presentations, many by young investigators. Awards were presented for the best posters in clinical and basic categories.

The seminar provided an opportunity to develop links and collaborations with other researchers in the field of human metabolism. It also allowed trainees in endocrinology and metabolism to learn more about this subject, and to interact with leaders in the field. We plan to hold future International Symposia on Advances in Human Metabolism Research at the University of Warwick every 2 years.

### 1st Annual Meeting of the Egyptian Thyroid Group

*Iman Alshorbagy & Mohamed Soliman, Zagazig University, Egypt*  
SPONSORED SEMINAR GRANT 2012

The Egyptian Thyroid Group (ETG) held its first meeting at Zagazig University in Zagazig on 19 January 2012, and

was delighted to receive support from the Society for Endocrinology in the form of the Seminar Grant. The committee invited general and endocrine surgeons, otolaryngologists, endocrinologists, clinical biochemists, radiologists and graduate students, and topics were carefully chosen to appeal to all disciplines. The programme comprised top local speakers, including several Egyptian

Institute scientists from the Universities of Zagazig, Mansoura, Cairo and Ain Shams. Approximately 300 people attended and early feedback was extremely positive from all disciplines.

The organising committee would like to thank the Society for its support, without which the meeting would not have been possible. Following its success, we are planning a further event for January 2013.

### Endocrine effects of continuous feeding

*Daniel Ball, Cardiff University*  
SUMMER STUDENTSHIP 2011

My summer studentship was highly rewarding in many different ways. First, I quickly gained an understanding of many experimental techniques that I had not previously encountered. This new-found competence allowed me to work alone, or with Dr Wells, in a laboratory-based setting on several projects. Secondly, my understanding of systems endocrinology and metabolism has been vastly increased by my summer work, and has encouraged me to assess the involvement of endocrinology in my own neuroscience studies. Finally, and perhaps most importantly, this summer studentship has given me a platform from which I can enter the final year with confidence in my ability, as well as giving me the desire to pursue a career in biomedical science.

Supervisor's comments: Daniel proved to be a great asset to the laboratory. His quickness to learn a range of techniques and his keenness to apply them to his own and other projects led to the production of an impressive array of data. These findings were presented by Daniel in a neuroscience research seminar and will find their way into several publications. Thus, the funding of this studentship by the Society for Endocrinology has enabled Daniel not only to acquire a wide range of research techniques, but to experience the satisfaction of generating meaningful novel data that will accelerate the output of the Wells laboratory.

*'...it is my view that this initiative has proved to be really successful, with a number of students commenting on their exit surveys that this module represented the highlight of their studies here. This is hard to maintain, but the enthusiasm for the subject among the students is certainly fanned by the prizes you so generously provide. Thank you again to the Society for this very helpful support.'*

COMMENT RECEIVED WITH AN UNDERGRADUATE ACHIEVEMENT AWARD REPORT

## CALLING ALL UNDERGRADUATES & GRADUATES!

Want to explore your career options in research, industry, science policy and more? Our Careers Conference has presentations on a range of science-related careers, a CV workshop with tips on how to secure an interview for your perfect job, and a chance to mingle with the experts in our exhibition. Lunch and afternoon refreshments included. Find out more: [www.societyofbiology.org/lsc](http://www.societyofbiology.org/lsc)

Organised by:

In association with:

Sponsored by:

# Grants and Funding



*So, what of funding beyond the Society for Endocrinology? Opportunities abound, but navigating the system to successfully secure the necessary finance for your studies can seem daunting. In the second special section of this issue of The Endocrinologist, we ask those with experience for their tips for successful applications.*

## Steps to a fellowship

► **The path from aspiring researcher to independent principal investigator is a hard one and, despite promises of ring-fenced cash from research councils to support independent fellowships, many are put off from even applying. Is this pessimism warranted and, if so, what can be done? This account is a personal view of the fellowship system, and how to make it work for you.**

We are all familiar with the situation: you are doing well in either clinical or basic science training, getting some papers, some invitations to speak, and helping out on writing grant applications. It's all going well, but how to take the next step to independence? The system that's in place to help involves fellowships. These are offered by a range of funding bodies, research councils, Wellcome, and disease-specific charities. Their objective is to find and fund the researchers of the future. The mantra applied is 'person, place and project'.

### Person

The level of achievement is dependent on the level of the scheme applied for, and the disease-specific charities may also be looking at the content of the work published to date. The emphasis is on quality rather than quantity, but too many applicants are put off applying for fear their publications are not good enough. In a field such as ours, where the top specialty journals carry an impact factor of less than 6, a balance between top specialty and some supraspecialty articles will buy an entry ticket. Additional marks of esteem include awards, grants and invitations. A background of sustained high-level activity, such as international appointments and collaborations, on a background of excellent undergraduate and postgraduate grades, helps.

### Place

There is anxiety amongst panel members that established investigators may use fellowships to fund their lab. Therefore, to optimise training, candidates are often encouraged to move, spend some time abroad, and to offer a strong justification for remaining within their current lab environment. The host institution needs to demonstrate a track record and infrastructure to support fellows in transition to independence. Frequent questions to candidates at interview are 'What will be yours at the end of the fellowship?' and 'How does your fellowship project differ from the programme grant held by Professor X?'. Therefore, prospective fellows need to have frank discussions with sponsors/mentors at an early stage to ensure appropriate support.

### Project

The project should be ambitious, address a major question, and include clearly defined training

components. A project which will require application of several approaches to address the core question will be more attractive than one which is centred only on a single methodology, as this mitigates the risk of things not working out. It is helpful to be explicit in writing who is doing what, and from whom the training/mentorship will come. Areas of overlap between host lab and the fellow can be beneficial, but should be described clearly, and the management of time, effort and resource explained. Fellowship panels have limited breadth of expertise, and rely on expert referees, but typically will require an interview. Therefore, it is very helpful to the non-expert panel members, all of whom will vote, to provide a lucid lay abstract. If they are not interested after reading this then the application is sunk! Summary diagrams, flow charts, and Gantt charts are also very useful.

The interview is the final stage in securing your award. Getting to this stage is the objective of the paperwork. Getting through the interview requires additional preparation. The panel like to see a short, logical and plausible presentation of the topic area to be addressed. After this, an enthusiastic candidate able to answer questions in a clear succinct manner is gratefully received. Good body language is essential: look like you want it! Often the discussion will centre around concerns that the project is not feasible as written, but that with such a strong, enthusiastic candidate the risk of failure is minimised because 'they will find a way to make it work'. Equally, sometimes the panel feel that it is a kindness to prevent a candidate embarking on a research fellowship which they do not fully embrace!

The interview will require serious attention to detail, and should be rehearsed, in front of a naïve panel of critical judges. A chat over coffee with your mentor is NOT useful preparation! If you are invited to speak for 3 minutes about the project, ensure you do just that. Do not over-run, as you will be stopped, and this will throw you off balance and leave a bad impression. Likely questions are easy to guess, and having coherent answers prepared and rehearsed calms the nerves, and contributes to an air of efficient organisation. Try not to ask questions at the end – the panel are unlikely to know the answers, and you leave on a rather awkward note!

DAVID RAY  
2006, 2007, 2009 MRC CLINICAL TRAINING  
FELLOWSHIPS INTERVIEW PANEL

NEIL HANLEY  
2012 MRC CLINICAL TRAINING FELLOWSHIPS INTERVIEW PANEL  
2007–2011 NIHR TRAINEES COORDINATING CENTRE  
POSTDOCTORAL FELLOWSHIP PANEL





## MRC funding – an endocrinologist's perspective

► The Medical Research Council (MRC) aims to support high quality research in order to improve human health. It sets priorities which are most likely to deliver improved health outcomes, and its most recent strategic plan was published in 2009. The MRC's main remit concerns discovery science, but it also funds work with a translational mission, including studies in experimental medicine, research methodology and global health, whereas research that is more related to healthcare delivery is funded through National Institute for Health Research (NIHR). There is a series of fellowship opportunities, and a series of research grant funding schemes. It is worth checking the MRC website ([www.mrc.ac.uk](http://www.mrc.ac.uk)) for more detail about the various schemes as these change regularly.

MRC project grants include:

- ▷ new investigator research grants, aimed at researchers becoming principal investigators
- ▷ standard project grants, which normally run for 3 years and typically cost less than £1m, and
- ▷ programme grants, usually lasting for 5 years. A programme is normally defined as a co-ordinated and coherent group of related projects which may answer an inter-related set of questions across a broad scientific area.

Other schemes are available, including industrial collaboration grants, and these are explained on the MRC website.

There are currently four research boards: the Population and Systems Medicine Board (PSMB), the Molecular and Cellular Medicine Board (MCMB), the Neurosciences and Mental Health Board (NMHB), and the Infections and Immunity Board (IIB). Each of these boards meets three times a year for a 2-day meeting, and each has representatives from a series of disciplines.

### Consider your audience

You should bear in mind that, while the referees are usually highly expert in the field, the board members may or may not have detailed subject-specific expertise, and their role is to provide an overall scientific judgement about the merits of the proposal in the context of all of the other applications being considered by the board. Your application therefore needs to address both the expert referees *and* the wider context and value of the research. A proposal in endocrinology could therefore be reviewed by an endocrinologist on the panel, but might also (or instead!) be reviewed by panel members with metabolic or reproductive expertise, or experience in transgenic animal models, cardiovascular biology, cell signalling, electrophysiology, etc. Preliminary data often receive close attention, as will your CV and publication track record, and these are critical in convincing a panel that you are well-placed to conduct the research and to generate useful findings.

### Focus on your objectives

A grant application usually takes a very long time to prepare in terms of generating the questions and the background data before you are ready to write the actual proposal. This process is obviously critical and it is your opportunity to obtain as much help as possible from colleagues and critics, trying to anticipate comments that real referees will make. Keeping a clear focus with well-defined objectives is really important, and you should consider what a 'killer experiment' might be.

Some applications fail because applicants are felt to be simply doing more of the same old approach rather than being more imaginative in asking the critical question. Applications often fail because they are felt to be unfocused or over-ambitious, unoriginal or pedestrian, or if the centre has no international standing in the research area.

The MRC in general would like to see some potential 'translational' benefit from the proposed work – this does not need to be an immediate translation to drug development or a new diagnostic procedure, but there should be some clearly visible relationship to human health. Great attention is being paid these days to sample size and power calculations, and in particular to the detailed justification of animal numbers – this is always scrutinised.

Always be sure to proofread your grant application, as panel members and reviewers easily get impatient with applications that look as if they have been poorly or hastily prepared.

### Procedural insights

Once your finalised grant application has been submitted, the programme manager will check that the panel has appropriate expertise, and then identify expert referees from around the world. The referees are invited to give detailed comments and offer a score of 1–6 (a score of 6 equates to work that is 'exceptional and world-leading', 4 indicates that it is 'very good and internationally competitive'). These scores are used in a triage process, and a score of 4–6 is needed to have a chance of being taken forward for discussion at the actual board meeting.

At this stage, with luck, you get the opportunity to respond to referee comments – the three pages you have available are precious space to expand on aspects of the proposal and highlight significant recent advances (new papers, new data). Don't waste space restating nice comments, or getting upset with a critic! This response needs to be careful and informative, but bear in mind that it will be read at speed, so clarity is crucial. Even comments that display some misunderstanding of what you wrote must be taken seriously. If a referee can misinterpret the point you were trying to make, so can the panel members.

At the board meeting, each grant application is then presented by an introducing board member, whose job is to

*continued on page 18*

## GRANTS AND FUNDING



### MRC Funding - continued from page 17

give an outline of the nature of the work proposed, summarise the referees' opinions, and provide his own critique of the merits and value of the work in the light of the expert referees' comments (and the applicants' response). Second and third designated board members then give their own critiques, and an open discussion follows about the merits of the grant proposal. Panel members may disagree! This discussion is always interesting and can bring different perspectives to the same proposal. Finally all board members have a vote which will result in an overall score.

A typical board meeting would have 70–100 grant applications submitted. Typically about 40 of these would

be discussed in full at the board, which then has to allocate its limited budget to the most deserving applications.

The MRC review process is certainly tough, and funding rates for 'response-mode' grant applications are about 12–15% at present. If your application is declined in the end, it's always very disappointing, but try not to take it personally. You need to read carefully to see if there is an invitation to come back with a revised proposal, and where there are clear issues that you can address. If you are funded, congratulations and enjoy the success – endocrinologists do regularly get funded by the MRC, and you could be the next. Good luck!

*JULIAN DAVIS, 2008–2013 PSMB MEMBER*

## BBSRC grant applications – a 'how to' guide

▶ **The success rate of grant applications at the Biotechnology and Biological Sciences Research Council (BBSRC) is currently around 20–25%. Using my experience as a pool and core member of BBSRC Committee A, I aim to give you some suggestions here that will put your project grant application within that group of successful applicants.**

### Keep it relevant

The first thing to note is that the grant request must, of course, match the current strategic priorities of the BBSRC. Their staff will advise if you have any worries.

It is essential that you convey the importance and relevance of the grant to the referees and committee members. The proposal should be written in a clear and concise manner. The hypothesis, aims and purpose of the experimental plan should be stated in a manner that is easily understood. Diagrams and preliminary results should be fully labelled and large enough to read. The presentation should be excellent, without typographical errors. It is a good tip to get colleagues to read through the application. These should be people that you know as critical scientists, but who are not directly involved with the project.

### Perfect planning

There are usually six pages available for the research explanation, thus it is important to develop a thorough plan, based on your novel hypothesis and aims. Some questions you should ask yourself include:

- ▷ is the role of co-applicants, in addition to myself, clear?
- ▷ is my own track record suitable for this application?
- ▷ if there could be doubts, have I justified how the work will be achieved (e.g. through timely use of expert collaborators)?
- ▷ does the work plan fit together in a sensible manner such that the component parts make one 'rounded' project?
- ▷ are there relevant pilot results to show that novel techniques have a feasible chance of working?

- ▷ is the research explained in sufficient clarity and depth to persuade the reviewer of the high international potential of the science?
- ▷ have I used relevant techniques that are the best available for the task?
- ▷ if it is proposed to use animals, is their use essential, appropriate and fully justified?
- ▷ are the costings complete and fully justified?

It is definitely worth thinking about whether you may be able to make the application stronger by including relevant collaborators, industry links, and others who may be able to add a novel aspect to the work.

### Final touches

Once the above has been addressed and you are confident about the actual scientific project there are several other aspects to consider. The first is to ensure that the project fits the time plan. There is an opportunity to provide a Gantt chart, and this is useful for both the applicant and reviewers/committee. Is the impact statement appropriate for this specific project? Do remember that there are a number of different types of impact. These include papers, public engagement, talks, posters, etc. Note that a general statement from your university, or a statement based on your previous impacts, is not what is required here.

Finally, have all the other questions been answered – without repeating the same thing over and over again? Each of the questions requires individual thought and a relevant answer.

I know that there are many questions here, but grants are awarded in a competitive manner. The sad fact is that if your application cannot stand up to the scrutiny of both reviewers and committee, you will be unlikely to succeed, even if everyone agrees that it is potentially exciting research!

In my opinion, successful grant applications are rarely written at the last minute. It takes time to develop concepts and write grant applications in a cohesive manner where everything is justified. Good luck, and remember the BBSRC staff are approachable and happy to help and advise when possible.

*SUE BRAIN*



# DUK Grant applications: tips for success

► Diabetes UK has a research portfolio worth about £22 million. Our small team receives and arranges peer review of more than 200 grant applications a year, across a range of different schemes. In 2011 we handled 248 applications.

Reading so many applications gives us a pretty good insight into what makes a good application, and some of the common mistakes that applicants make. So here are some tips to give your grant application the best chance of being recommended for funding.

## 1 Understand the funder and the aims of the scheme

You need to show how your project will help the funder achieve its objectives. In our case, the bottom line is that we want all our research to benefit people with diabetes or at risk of the condition. Even if your application is otherwise perfect we will not fund it if it does not do this.

## 2 Explain how your work will fit with what has gone before

Our reviewers have a in-depth understanding of the current state of the field, so you must present an accurate, well-referenced assessment of relevant research, and describe how your work will build on it. Rather than ignoring results which contradict your hypothesis you should explain them and clearly show why you disagree.

## 3 Involve the right people

Applications commonly fail because the research team does not seem to have all the skills and experience needed to deliver the work. You should choose co-applicants and collaborators who offer any missing skills. For example, junior researchers should involve senior co-investigators. If your project requires significant statistical analysis we would expect to see a specialist statistician named as part of the research team.

## 4 Demonstrate that your proposal has solid foundations

Applications are often turned down due to a lack of supporting preliminary data. Requests for large amounts of funding will require more extensive evidence in support. If there isn't any relevant background data you should consider funders' small awards schemes. These are designed to help you get preliminary data before submitting larger applications.

## 5 Present a clear and realistic experimental plan

One key thing that will be judged when experts review your application is whether the research plan, as described, will actually deliver decisive results. They can only make this judgement if your experimental plan is clear and contains all the relevant details. You should present the necessary statistical analysis to show that the right number of patients or experiments will be involved. If your study aims to recruit patients, you should provide evidence that your recruitment plan is feasible (number of

sites, number of patients currently seen at those sites, estimates of number meeting eligibility criteria etc). It is important that you demonstrate your awareness of potential problems or bottlenecks, and build in ways to manage them effectively during the project.

## 6 Show how you will measure progress and what you will do with the results

It makes it much easier for the funder and reviewers (and therefore makes your proposal more likely to be funded) if your application includes a timeline showing key stages in your plan and interim milestones and targets. Reviewers, especially our lay reviewers, look very favourably on applications that include clear details about how you will use the results of your research. Even for basic research at an early stage, there should be a plan to disseminate and then build on results in the long term. Funders and their reviewers want to see the path to patient benefit, even if that is likely to be a long and difficult road.

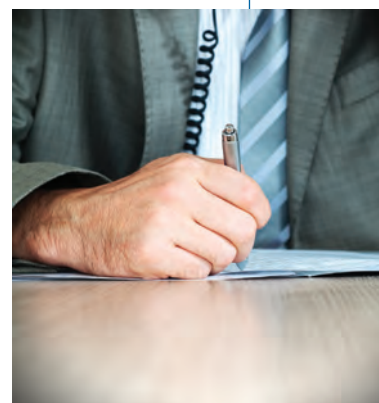
## 7 Involve users and explain your research's value to our lay stakeholders

At Diabetes UK, people living with diabetes are our most important stakeholders. We take their input seriously and every project grant is read and scored by our panel of people affected by diabetes. This group has a deep understanding of diabetes but most have no formal scientific training, so it is essential that you produce a clear, concise, jargon-free lay summary which describes your research, why it is necessary, and how it will improve their lives. It is also important to show that you have involved users in the design of your research.

In summary, we find that the strongest applications ask clear, well-defined research questions and are built around a well-founded hypothesis. To be fundable, your application must present a research method which will address these questions and hypotheses. However, the best projects are those that go further, incorporating genuine user involvement and a suitable range of collaborators and co-applicants with strong track records in appropriate disciplines, to become greater than the sum of the individual parts.

Paying attention to all of these things will give you the best possible chance of being funded. Finally, remember that major funders have many years of experience of awarding grant funding – they will gladly share this experience with you if you ask for their advice.

MATTHEW HOBBS  
HEAD OF RESEARCH, DIABETES UK



# MSc in Endocrinology: shall I do it?

► 'Why did you decide to do an MSc in endocrinology?' When confronted by this question from yet another colleague, I reply, 'Do you remember the general endocrine clinics when you were first an endocrinologist?'

I think all of us can recall the horror associated with the prospect of the next patient entering our consulting room: 'Have I ever seen a case like this before?' 'What is the pathophysiology?' 'What is the appropriate investigation?'

That's why I chose to do the MSc in Endocrinology and Diabetes at Barts. Yes, there are training programmes in each deanery, usually of a very high quality, which can be supplemented by attendance at conferences, personal study and, most importantly, clinical experience. But is there still something missing? I definitely think so: a structured educational programme which covers the whole curriculum, from physiology and anatomy to diagnosis and treatment. This is a gap in our endocrine training in the UK that is filled by this MSc.

My second reason is that, as a physician, I would like to be confident in practising evidence-based medicine, but that is easier said than done. How many times have we searched the literature or read a whole paper during the SHO/CMT years? My recollection of those years is endless nights clerking patients, revising for MRCP exams and

studying before each 4-month post in order to refresh the basic principles of every specialty. Thus at the beginning of our SpR rotation we know how to implement guidelines; then is the time to work towards the next level.

This MSc in Endocrinology and Diabetes at Barts has contributed significantly to my career development. First, I am much more knowledgeable and competent than before in dealing with endocrine cases. Secondly, reading numerous papers and writing reviews on a regular basis over 16 months has been an excellent way to further develop my critical appraisal skills. In addition, shortly after the beginning of the course, the prospect of research seemed much more attractive, and only a few months later I took the decision to do research. The way I learnt to form a question and try to answer it has helped me to conceive and design my research project. The research skills (literature search, critical appraisal, presentation skills) I have developed through this course have been invaluable during the stressful journey to starting research, which I start in 2 months' time.

Overall, this MSc has definitely made me a better endocrinologist, but also offered me the skill set to apply evidence-based medicine and start an academic career. My personal recommendation to any SpR is to attend a similar course during the early phase of their SpR training.

PLOUTARCHOS TZOULIS

## THE NATIONAL UK TURNER SYNDROME REGISTER

### *Can you help to improve the follow-up of care for patients with Turner syndrome on the UK?*

The aim of the Turner Register is to monitor the provision of clinical care provided to young women with Turner syndrome (TS) aged 16 years and above during adult life. We are asking young women to join the Register and complete a simple annual questionnaire.

#### TURNER SYNDROME CLINICIANS

We need your help to recruit patients aged 16 years and above. Patients attending paediatric and adult clinics can register themselves to the study. We are asking you if you would display a poster advertising the register in your clinics. Local R&D approval is required and we are happy to help you with this process. For more information, please contact: Tel: 01223 769386; Email: [as336@medschl.cam.ac.uk](mailto:as336@medschl.cam.ac.uk)

The study has REC approval: South West Research Ethics Committee, reference 03/6/075

The study is being co-ordinated by the British Society for Paediatric Endocrinology and Diabetes (BSPED) Clinical Trials Group. *Principal Investigator:* Professor David Dunger (Cambridge University)



**British Society for Paediatric Endocrinology & Diabetes**



# On animal research

► It is rarely out of the news for long, eliciting strong emotions in both scientists and the wider public, but the use of animals to advance medical research continues apace to deliver vital scientific discoveries.

For us as endocrinologists, whether our interests lie with understanding how hormones affect cancer, the metabolic processes involved in skeletal muscle, or the cause of rare sex disorders, animals provide the key to translating our cellular results into whole physiological models. In fact, without animal research, advances would be extremely difficult, if not impossible, in almost all fields of biological research.

However, despite the mountains of Home Office paperwork that we all complete concerning the ethical and moral conduct we take to ensure animal welfare, we rarely step forward to discuss and defend why animals are so critical to our, and the public's, scientific understanding.

Although a significant majority (about 75%) of the public broadly accept the use of animals to further research goals, there is a vocal and significant minority that abhor the idea. Strengthened by the musings of moral philosopher Peter Singer and his popularisation of speciesism – a belief that the treatment of individuals is based on group membership and morally irrelevant physical differences – they argue that humans have no right to cause suffering to another animal, and in so doing are demonstrating speciesism. Parroting Jeremy Bentham's 'the question is not "can they reason?" nor "can they talk?" but "can they suffer?"', Singer further argues that, although there may be differences between animals and humans, they share the capacity to suffer, and we must give equal consideration to that suffering.

As researchers who cause animal suffering, we should be acutely aware of the arguments that affect the moral and ethical dilemmas our work entails. The majority of us, I think, take a more balanced approach than Singer, pointing to evidence of the unusual rapid evolution of the human brain and the consequent exceptional aptitudes that we possess compared with other animals. As one commentator put it, 'Over the course of human history, we have been successful in cultivating our faculties, shaping our development, and impacting upon the wider world in a deliberate fashion, quite distinct from evolutionary processes'. Jeffrey Alan Gray, lecturer in experimental psychology at Oxford, has written that: 'I would guess that the view that human beings matter to other human beings more than animals do is, to say the least, widespread. At any rate, I wish to defend speciesism...' We choose to use animals in our research because we believe in order to understand biological complexity, and ultimately to enhance medical benefits, we must reluctantly sacrifice animals to that cause.

The public, who fund a significant amount of science across the UK, has a right to know how this money is spent and how we are dealing with our ethical obligations. Unfortunately, the scientific community generally remains reluctant to speak out and defend its use of animals. This is not surprising. Recent unnerving reports show that staff at Harlan Laboratories in Oxfordshire, which is continually targeted by animal rights activists, not only risk verbal and physical abuse, but being branded sex offenders. As one employee commented, 'It is part of their [the animal activist] methodology to equate animal work with paedophilia. If they find out your name, you will appear on their website as a paedophile. It is disgusting.'

Such intimidation is a frequent weapon for activists. Harlan's staff have remained resolute, but elsewhere the effect on the breeding of laboratory animals in the UK has been seriously affected. In 1981 there were 34 companies breeding laboratory animals. Today there are just 3 because of intimidation of workers and of companies supplying services and products to laboratories.

This situation is now critical. The closure of another UK breeder would make research in the UK, at best, difficult. Scientists have begun to fight back as they recognise the importance of both greater public and ethical transparency for their work. Supporters of the necessity for animals in research have rallied under the Pro-Test banner and march annually in Oxford. Furthermore, there are various web pages (Understanding Animal Research, Speaking of Research and The Ark Hive) that highlight how critical animal research is for furthering our biological goals of understanding life and curing disease.

However, more still needs to be done and, to further this, I have put together the views of leading endocrinologists and scientists, as well as post-doctoral associates and PhD students, who rely on animal research (see below). Most still feel inhibited about openly discussing their work, and many think the public do not fully comprehend why their research is necessary. A greater need for transparency, possibly through publishing in open access journals, was highlighted as a way to further engage the public.

Personally, I believe that we should be open and honest regarding our use of animals for research needs. Indeed, within my teaching capacity, I frequently highlight where animal research has aided biological understanding, and I run a website ([www.the-ark-hive.org](http://www.the-ark-hive.org)) dedicated to promoting debate on recent scientific advances that have relied on animal research. I am keen that many more scientists across the UK speak up to defend their use of research animals. With the continued threat to animal breeding facilities it is paramount that we continue to inform the public about the important life-changing research we do.

PAUL A FOSTER

**Q Do you think animal studies are important for your endocrine research?**

**A** Yes, it is almost impossible to study the endocrine system without using animal models. Although *in vitro* experiments can be useful in investigating mechanism, it is essential to see what happens in the whole animal.

*Dr Kevin Murphy (Imperial College London)*

**Q Have you ever felt inhibited to discuss your animal research in public?**

**A** Always. I go to huge efforts to deliberately not say the names of species when discussing work with colleagues in cafes etc., and mostly I deny that I work with live animals when I'm meeting someone outside of work for the first time.

*Dr Ramona Scotland (Queen Mary University, London)*

**A** Sometimes yes. I am Dutch and did my undergraduate and PhD degrees in the Netherlands. When I was moving to the UK one of the first things my former supervisor told me was to never talk about animal research in the UK as you never know who's listening in. The reputation in the UK made me more aware about talking about my research in public. But on the other hand, I know that talking more about animal research in public will eventually do good as there's a big taboo on this subject and most people are therefore ignorant as they aren't very well-informed.

*Dr Sander van den Driesche (University of Edinburgh)*

**A** Yes, I would not do so apart from to close friends and family. In my first week of work at an internship for a major pharmaceutical company we received an email saying how the CEO's parents' graves had been dug up, and his holiday home burned down. Furthermore, two of my relatives previously worked for pharmaceutical companies, and both were given burglar alarms for their houses. Although these are pharmaceutical companies and we are discussing academia, I think this does not matter to the people out there who have extremely strong feelings towards animal research, and there is no need to fuel this by discussing it in public.

*Anonymous*

**Q Do you believe the public understand the need for animal research?**

**A** If it is explained to them in sufficient detail, then the majority of the public are broadly supportive of animal research, most just don't like to think about it.

*Anonymous*

**A** No. This is based on reactions to me using animals in research at early stages of my career. My fellow students had extremely strong opinions on this. I used to ask them if they would be willing to either take no medicines at all or take medicines for which the mechanisms/safety were unknown. I never got a satisfactory answer. I think that the public are oblivious of the fact that regulations on animals in research are stringent in UK, and that it is tightly regulated at several levels.

*Dr Ramona Scotland (Queen Mary University, London)*

**Q Do you think there should be more transparency regarding animal research?**

**A** Yes, I think covering information up tends to encourage conspiracy theories.

*Dr Kevin Murphy (Imperial College London)*

**A** Not necessarily. I don't think it will change people's attitude. I think it will be the other way around – we will be more transparent when attitudes change.

*Dr Ramona Scotland (Queen Mary University, London)*

**A** No. Many people understand the need, know that it goes on, and are extremely grateful for the medicines that arise from the use of animals. However, I think many do not want to know any more than the fact it goes on. I cannot see how more transparency would benefit the main body of the population and it would only give more ammunition to activists.

*Anonymous*

**Q What could be done to encourage you to be more transparent about your animal work?**

**A** Opportunities to be involved in science festivals are great to 'confront' the general public, or to discuss certain issues regarding animal research. I think if the potential threat of repercussions from the animal welfare extremists were minimised, more people would perhaps be more open to discuss animal research in public.

*Dr Sander van den Driesche (University of Edinburgh)*

**A** I think it is transparent enough. A public lecture series (run by Professor Alan McNeilly) is run out of my institute, which makes obvious the need for animals in research, whilst being conscious of the ethical issues involved.

*Professor Karen Chapman (University of Edinburgh)*

**Q Do you believe that open access publishing, which will allow for greater public access to scientific papers, is a positive or negative move for animal research?**

**A** It is a positive move in all respects (not just for animal research). It also allows greater access to scientists and raises standards (e.g. of animal welfare) required of authors.

*Professor Karen Chapman (University of Edinburgh)*

**Q How do you view the Home Office's governance of animal research?**

**A** I think it is good that the governance is strict. However, I think that there is a lot of bureaucracy involved that does not necessarily improve animal welfare or experimental standards. The recently revised project licence procedures are much improved. It would be helpful to similarly streamline the paperwork required for personal licences.

*Dr Kevin Murphy (Imperial College London)*

**Q Do you think the Home Office helps or hinders endocrine research in the UK?**

**A** I think you need a system of regulation for animal work, and that the Home Office does a good job, with the caveats regarding bureaucracy. It is helpful to be able to highlight the strict regulation when defending animal research.

*Dr Kevin Murphy (Imperial College London)*

**A** Generally helpful, although this seems to depend on which Home Office inspector you have.

*Anonymous*

**A** Hinders. Far too much potential research time in the UK is dedicated to filling out paper work which could and should be used for the research.

*Anonymous*



## Endocrine CONNECTIONS

### RAS in bovine embryos

Pijacka and colleagues used bovine embryos produced *in vitro* to analyse renin-angiotensin system (RAS) transcripts, localisation of the receptors AGTR1 and AGTR2, and the effects of angiotensin II (Ang II), olmesartan (AGTR1 antagonist) and PD123319 (AGTR2 antagonist). Preimplanted embryos had AGTR1 and AGTR2 but not the other RAS components. PD123319 increased the proportion of hatched embryos. The pre-implanted embryo appears to respond to maternal Ang II, indicating how the maternal RAS might influence early embryonic development.

[Read the full article in \*Endocrine Connections\* 1 22–30](#)



## Journal of Endocrinology

### Adiponectin influences onset of puberty

Serum adiponectin decreases throughout puberty. Wen and co-workers investigated its effect on hypothalamic KISS1 gene transcription (the upstream signal of GnRH). Adiponectin activated AMPK in hypothalamic GT1-7 neurones, so decreasing translocation of SP1 from cytoplasm to nucleus and repressing promoter activity and transcription of KISS1. This is the first experimental evidence for the characterisation of reproductive regulation by adiponectin, and for involvement of AMPK and SP1 pathways.

[Read the full article in \*Journal of Endocrinology\* 214 177–189](#)

### Progesterone and breast cancer cell migration

Protease-activated receptor (PAR)1 (F2R) is involved in cancer cell migration and overexpressed in breast cancer. Diaz *et al.* showed that PAR1 mRNA and protein are upregulated by progesterone in ZR-75 and T47D breast cancer cells. This depends on the progesterone receptor but does not require its phosphorylation. This gives a new insight into how the progestin component of hormone therapies increases breast cancer risk in postmenopausal women.

[Read the full article in \*Journal of Endocrinology\* 214 165–175](#)



## Endocrine-Related Cancer

### ER and AR receptors in thyroid cancer


Examining thyroid cancer *in vivo*, Magri and colleagues found that expression of oestrogen receptor  $\alpha$  (ER $\alpha$ ) and androgen receptor (AR) is positively associated with an aggressive phenotype, while the association with ER $\beta$  is negative. This expression pattern could be used as a tool to identify high-risk patients.

[Read the full article in \*Endocrine-Related Cancer\* 19 463–471](#)

### Perifosine-mediated Akt inhibition in NETs

Aberrant Akt activity is evident in most gastroenteropancreatic neuroendocrine tumours (NETs). Several phase III trials are underway which target mTOR signalling in the PI3K/Akt/mTOR pathway. In this study, Zitzmann and colleagues demonstrate that perifosine potently inhibits Akt phosphorylation and cell viability in three human NET cell lines of pancreatic, small intestine and bronchial origin. They suggest selective targeting of Akt1 and Akt3 isoforms could be particularly effective in NET treatment.

[Read the full article in \*Endocrine-Related Cancer\* 19 423–434](#)



## JOURNAL OF MOLECULAR ENDOCRINOLOGY

### Renal protection by telmisartan

Zhang and colleagues examined how telmisartan improves kidney function in diabetes mellitus using gene array experiments. Telmisartan reduced 24-h urinary albumin, serum creatinine and serum urea nitrogen in a dose-dependent manner, and ameliorated kidney function in diabetic rats. The mechanisms involved are in the oxidative phosphorylation pathway, the PPAR- $\gamma$  pathway, and the slit diaphragm. These results could be important in devising therapeutic strategies.

[Read the full article in \*Journal of Molecular Endocrinology\* 49 35–46](#)

### CB1 modulation of glycaemic homeostasis

Rimonabant, a selective cannabinoid receptor type 1 (CB1) antagonist, has beneficial effects in metabolic syndrome. Furuya *et al.* used 3T3-L1 adipocytes to investigate the effects of the selective CB1 agonist ACEA and the CB1 antagonist/inverse agonist AM251 on Slc2a4 gene expression. Blocking CB1 markedly increases Slc2a4/GLUT4 expression in adipocytes, and involves NF- $\kappa$ B and SREBP-1 transcriptional regulation.

[Read the full article in \*Journal of Molecular Endocrinology\* 49 97–106](#)



## CLINICAL ENDOCRINOLOGY

### GH regimens in Australia

The GH treatment programme in Australia differs from most others in the use of auxological assessment, dosing in mg/m<sup>2</sup> rather than in mg/kg, and having a low starting dose of 4.5 mg/m<sup>2</sup>/week and a 6-monthly dose increment interval. Hughes and colleagues compared the efficacy of this system with others. Their analysis suggests a higher starting dose of 6.4–6.9 mg/m<sup>2</sup>/week for idiopathic GH-deficient patients and 8.9 mg/m<sup>2</sup>/week for idiopathic short stature patients.

[Read the full article in \*Clinical Endocrinology\* 77 62–71](#)

### Gonadectomy in adult women with CAIS

To reduce risk of malignancy, the surgical removal of the gonads has been standard advice in complete androgen insensitivity syndrome (CAIS). However, the lack of an accurate estimate of the risk and the perceived benefits of retaining gonads are prompting more women with CAIS to defer or decline gonadectomy. Deans *et al.* reviewed evidence on the risk of gonadal malignancy and explored reasons given for deferring gonadectomy.

[Read the full article in \*Clinical Endocrinology\* 76 894–898](#)

### PDE8B variants in adrenal tumours

Phosphodiesterases (PDEs) regulate cAMP degradation, and many PDE mutations have been implicated in adrenal tumorigenesis. In this case-control study, Rothenbuhler and colleagues screened for genetic variations in PDE8B, finding nine sequence changes, of which six have not been previously reported and two demonstrate significant potential functional impairment. These data support the view that PDE8B is a key genetic factor in predisposition to adrenocortical tumours.

[Read the full article in \*Clinical Endocrinology\* 77 195–199](#)

*Society members have free access to the current content of Journal of Endocrinology, Journal of Molecular Endocrinology, Endocrine-Related Cancer and Clinical Endocrinology via [www.bioscialliance.org](http://www.bioscialliance.org)*

**Hypogonadism** – an endocrine issue which causes significant morbidity and substantial reduction in quality of life<sup>1</sup>



**control**  
**concentration**  
**cost**  
**convenience**

**Tostran®** – a simple solution to a serious problem

## Control

- Tostran® returns and maintains hypogonadal patients T levels to normal<sup>2</sup>
- The metered dose system allows for easy dose titration

## Concentration

- Tostran® is the only 2% testosterone gel

## Cost

- Tostran® represents a 14% cost saving compared to Testogel® at the lowest and highest approved doses<sup>3,4</sup>

## Convenience

- Tostran® – easy to use, metered dose canister<sup>5</sup>

The first metered dose



2% testosterone gel

A simple solution to a serious problem

### Tostran Abbreviated Prescribing Information

#### Tostran (testosterone) 2% Gel Prescribing Information

Please refer to Summary of Product Characteristics (SPC) before prescribing.

#### Presentation

Tostran 2% Gel, contains testosterone, 20 mg/g.

#### Indications

Replacement therapy with testosterone for male hypogonadism when testosterone deficiency has been confirmed by clinical symptoms and laboratory analyses.

#### Posology

The starting dose is 3 g gel (60 mg testosterone) applied once daily at approximately the same time each morning to clean, dry, intact skin, alternately on the abdomen or to both inner thighs. Adjust dose according to clinical and laboratory responses. Do not exceed 4 g gel (80 mg testosterone) daily. Patients who wash in the morning should apply Tostran after washing, bathing or showering. Do not apply to the genitals. Do not use in women, or children under the age of 18 years.

#### Contraindications

Known or suspected carcinoma of the breast or the prostate; hypersensitivity to any of the ingredients.

#### Special warnings and precautions for use

Tostran should not be used to treat non-specific symptoms suggestive of hypogonadism if testosterone deficiency has not been demonstrated and if

other aetiologies responsible for the symptoms have not been excluded. Not indicated for treatment of male sterility or sexual impotence. All patients must be pre-examined to exclude a risk of pre-existing prostatic cancer. Perform careful and regular monitoring of breast and prostate. Androgens may accelerate the development of subclinical prostatic cancer and benign prostatic hyperplasia. Oedema with/without congestive heart failure may be a serious complication in patients with pre-existing cardiac, renal or hepatic disease. Discontinue immediately if such complications occur. Use with caution in hypertension as testosterone may raise blood pressure. Use with caution in ischemic heart disease, epilepsy, migraine and sleep apnoea as these conditions may be aggravated. Care should be taken with skeletal metastases due to risk of hypercalcaemia/hypercalcuria. Androgen treatment may result in improved insulin sensitivity. Inform the patient about the risk of testosterone transfer and give safety instructions. Health professionals/carers should use disposable gloves resistant to alcohols.

#### Interactions

When androgens are given simultaneously with anticoagulants, the anticoagulant effect can increase and patients require close monitoring of their INR. Concurrent administration with ACTH or corticosteroids may increase the likelihood of oedema and caution should be exercised.

#### Undesirable effects

Very common ( $\geq 1/10$ ): application site reactions (including paresthesia, xerosis, pruritis, rash or erythema); common ( $\geq 1/100$ ,  $< 1/10$ ): increased

haemoglobin, haematocrit; increased male pattern hair distribution; hypertension; gynaecomastia; peripheral oedema; increased PSA. Certain excipients may cause irritation and dry skin. Consult SPC for other undesirable effects of testosterone.

#### Pack Size and Price

Packs containing one or three 60 g metered-dose canisters per pack. Price £26.67 per canister.

#### Legal Category POM

Further information is available from the Marketing Authorisation Holder ProStrakan Limited, Galabank Business Park, Galashiels, TD1 1QH, UK.

Marketing Authorisation Number PL16508/0025

©ProStrakan. ®Registered Trade Mark. Date of PI Preparation: September 2010

Adverse events should be reported. Reporting forms and information can be found at [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk). Adverse events should also be reported to ProStrakan Limited on 01896 664000.

#### References:

1. Nieschlag E et al. Hum Reprod Update 2004; 10: 409 - 419

2. Dumas C. Poster presented at the 25th Scandinavian Meeting of Urology, Göteborg, June 2005

3. MIMS June 2011

4. Tostran® data calculation - ProStrakan data on file 2011

5. Tostran® Summary of Product Characteristics June 2010

 ProStrakan